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Primary School Age Development

EDITOR'S COMMENTS

This chapter provides the criteria for what constitutes a stage of development and documents the school age or latency stage from biological, social, and psychological data and perspectives. The integrated use of findings from several disciplines over time is very useful in enabling readers to form their own new questions and hypotheses from their own clinical observations.

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The period of primary school age development has been variously labeled. Each name indicates a particular vantage based on a specific developmental theory and is associated with a name in psychology or psychiatry that is well known to scholars and professionals. Freud[1] called the period "latency"; Erikson,[2] the "age of industry"; and Sullivan,[3] the "juvenile era." Piaget,[4] refers to the "stage of concrete operations," while Thomas and Chess[5] argue for the simple designation of "middle childhood." The span of the period is also variably defined as the beginning of primary school, which is either at age 6 or 7 in most cultures, reaching at least into the 12th year of life. Latency may be said to end at the beginning of puberty, if one were inclined to use a biological index.

Just as there are many names for the period, there are varying theories as to how children within this age period come to be what they are. Indeed, the largest controversy about this period of life centers about whether it represents a maturational happening that transcends culture and whether it has a uniform set of descriptors. For the sake of this discussion, Gesell's,[6] descriptions of 7-, 8-, and 9-year olds remain interesting and instructive even if they are tied to a specific cultural setting and tend to create artificial age–behavior correlates. These descriptions will be used as handy and culturally relevant indicators of what children look like in our country during latency, and one may look for variants from these descriptions to extract what is constant from culture to culture. Although this approach is flawed by ethnocentrism, it remains pragmatic for our culture. Moreover, the variations that do exist between and among cultures do not seem to be large regarding core attributes; also complete descriptions from many areas are lacking.

For the purpose of orientation, it is best to quote directly from Gesell. About 7-year olds he writes, "There is a kind of quieting down at 7. Six year-oldness tended to produce brash reactions and bursts of activities. The 7-year old goes into lengthy periods of calmness and self absorption." Later he states, "At home as at school the child's personal-social behavior shows an increasing awareness of both self and of others. He's more companionable . . . he is not a good loser. He tattletales. If a playground situation grows too complex and things go badly, the 7-year old runs home with a more or less righteous declaration, I'm quitting. Let us be duly grateful for his germinating righteousness. It is evident that the 7-year old is developing an ethical sense."

Gesell goes on to state about the 8-year old: "Eight again is expansive, but on a higher level of maturity . . . Eight is more a person by adult standards and in terms of adult–child relationships.

One converses with an 8-year old with lessening condescension. . . . There are three traits which characterize the dynamics of his behavior: speediness, expansiveness, evaluativeness." At yet a later point he writes, "The 9-year old is no longer a child; nor is he yet a youth. Nine is an intermediate age in the middle zone which lies between the kindergarten and the junior high school teens."

Thus, the early school years even within a single culture represent a period of rapid change and significant reorganizations that lead toward socialization, an increase in peer relationships, and a significant preoccupation not only with self but also with an expanded social orientation. Perry and I[7] have suggested that although these characteristics may not hold exactly across cultures, one can take a longer view of the history of childhood and find certain similarities and consistencies with how society treats children of this chronologic age that meshes with their age-related skills. We suggest that even if Freud had never alerted us to latency as a maturational line, a careful historical perusal of how adults treat children in middle childhood would have led to the conclusion that it is indeed both different and able to be segregated from earlier and later periods. Society seemed to discover empirically that those aged 7 and older were already capable of increased autonomy and that society could in turn exploit their many skills in the service of production and apprenticeship.

Children were not sent away from home to become pages at court until age 7. At the time of the guilds, children were apprenticed at age 7.[8] There is probably no society in which a child of 6 or 7 has not been considered ready to enter the equivalent of primary school. Although preschools and kindergartens are well in place in our society, they do not generally address formal learning as a central aim. Kohlberg and Gilligan[9] note the recognition by almost all cultures of "two great stages or transformations of development." They consider the periods of 5 and 7 and of adolescence to usher in and end periods of compulsory education. Moral conviction as reflected in church practices has led the Roman Catholic Church to consider 7 "the age of reason" and, therefore, time when the first communion becomes possible because of newly emergent cognitive capacities. English Common Law has directed our own law practices to consider children younger than age 7 incapable of criminal intent; and although the age of minority is variously construed, 7 has been a historically critical age.[10] Thus, there seems to be ample consideration by social practice alone to warrant the conclusion that this period represents a time of change and a time of expansion and development when the child enters into and becomes an essential part of many societal practices.

Aries,[11] the historian of childhood, has indicated that childhood itself was not very much considered until the Age of Enlightment during the 18th century. Although a careful examination of history does not support the uniformity of this contention, we can use it to provide a time from which to begin our considerations about our modern thoughts about latency. Freud's belief that latency is a biologically determined phase derives from his central preoccupation with the role of polymorphous perverse infantile sexuality and its effect on later development. He borrowed from the data of biologists to develop his theory and to keep it consistent with early 20th century biological thought. The concept of latency was part of a more general hope that his psychology might rest on firmer information about neural and endocrinologic substrates. He stated in 1905 that development in part is organically determined and fixed by heredity,[12] just as he noted later that the passing of the Oedipus complex was similarly determined by biology.

The latency period was characterized by a diminution of libidinal intensity and a turn from egocentric oedipal aims toward more socially acceptable activities and curiosity. All this is carried out with the same zeal that had previously been invested in a variety of unneutralized sexual aims. The concept of biological biphasic sexuality was known during the time of Freud's writing, and although he realized that anatomic growth and psychological development may not be exactly parallel, he did use the anatomic findings as a convenient analogy to his concept that latency represented a quieting down of sexual drives, which then remained latent until the passions of puberty emerged. Sometimes cautious about the extravagance of such parallels, he did state in 1935 in a footnote to his 1925 autobiography, "The period of latency is a physiological phenomenon. It can, however, only give rise to complete interruption of sexual life in cultural organizations which have made the suppression of infantile sexuality a part of the system. This is not the case with the majority of primitive peoples."[13]

It is in response to this background of Freudian ascendency and the ensconcement of the term *latency* that many culturalists point to the fact that ghetto children or children in "developing cultures" do not exhibit a sexual latency in just the way that Freud described it and in the way Gesell found it in his careful descriptions of middle-class American children. On the other hand, future

thinkers thought enough of the idea to subdivide latency further, both within the psychoanalytic framework and apart from it. An initial period was described in which the ego is still buffeted by impulses and threatened by the new superego following the resolution of the Oedipus complex and the structuralization of mental agencies.[14] At a later stage, between ages 8 and 11, the ego is exposed to fewer conflicts as the superego becomes less rigid. The latter stage recognizes a more placid latency child.

Other observers followed the path of trying to find those features that characterize the stages of latency and parallel them to clinical phenomena. The psychopathologic syndromes that are prevalent in this period include disorders of conduct and the expression of earlier organic-like problems, such as attention deficit disorders. These psychopathologic syndromes become prominent during latency, while the neurotic syndromes and anxiety states seem to diminish.

Thomas and Chess[5] have considered both aspects of normality and pathology, but they are critical of the term *latency*. However, they also admit to its phenomenologic presence. They, interestingly, counter Freud on the idea that things quiet down and prefer to look at it as a period of continued development and psychological change. They emphasize, as do Gesell and Freud, the industriousness, the increase in number and kinds of relationships, and the sense of belonging to a peer group and recommend the period as a time of transition from action to ideation.

In their longitudinal study of middle-class children, Thomas and Chess[5] note that there are five types that emerge. The first is characterized by steady developmental success. This group represents the majority of the successful children studied. The second group, who had shown earlier behavioral difficulties, resolved their problems during this period. A third group with earlier behavior problems developed new problems in this period in response to new stresses. A fourth group showed continuation of earlier behavioral problems well into middle childhood. The fifth group developed new problems in middle childhood that did not seem to reflect a repetition of problems of the earlier period. They then proffer the concept of the "difficult child" who has a temperamental constellation of slow adaptability, irritability, and initial negative response to new situations. Intense negative reaction to stimuli and irregularity round out the picture. This is the group from which a significantly higher percentage of problem children are found to emerge. In their total study group of 134 children, 47 problem cases emerged during middle childhood. However, 34 of the group had the onset of their disorder before the age of 6. Only one new case developed and was referred between the ages of 9 and 12.

Thomas and Chess[5] concur with McFarland and co-workers' interpretation of the data from the Berkeley study[15] and with the epidemiologic study of La Pouse and Monk[16] that as age increases there seems to be a decreasing prevalence of behavior disorders in school-age children from the middle class. They do note, however, that the middle-class sample contrasts strongly to the increasing incidence of behavior problems seen in a New York City, Puerto Rican sample in which cultural differences are accentuated at school entry. Early middle-class parental indulgence is in sharp contrast to the practices of the urban Puerto Rican culture in which the school years place new demands on the child as he or she moves away from home and into a relatively alien new world.

It is always instructive to look at children to define whether a stage or phase of development exists in other places than in the theories of developmentalists. On the other hand, the vantage point of the developmentalist determines which data are used to establish the stage or phase as an important way of generalizing disparate information. Thus, the general psychiatrist who uses developmental concepts must not only review what is recorded as fact but also must inquire as to the methods of investigation used and how they may limit the conclusions that are justifiably included in the final statement of a specific model. There is no way to escape the problem of methodologic bias. However, when different methods of observation, ranging from the substrate to social behavior, converge, we believe that we are on firmer ground and can claim greater certainty. Hypotheses can then be raised to theory, and the theory can be tested by experience and empiric methods. Thus, multiple approaches that suggest discontinuity in development should bring the observer to greater conviction that he or she is dealing with a stage.

There are many studies of brain behavior correlation, of maturation of cognitive structures, and of moral development of children to indicate that what has been described socially and behaviorally during this period converges with other levels of investigation.[17] Neurodevelopmental studies show that the brain attains about 90% of its total weight by age 7 and that microscopic structural differentiation of neurologic structures that was not apparent earlier is completed by age 7. Pathology also is consonant with developmental studies in showing

that lesions to the left brain occurring after age 6 leave the child with continuing dysphasic problems, whereas children who experience lesions prior to age 6 have a decreased percentage of dysphasic problems. The difference is due to brain plasticity in the younger child. More recent studies indicate that the proliferation of dendrites early in childhood begin a downward slope at between 5 and 7 years. The earlier overproduction may be responsible for the greater plasticity of the human brain prior to latency exemplified in the efficacy of training strabismic children to use the squinting eye early. Similarly, at the neuronal level it has been shown that hippocampal development and the functions related to that brain center are complete only in middle childhood.[18] These brain centers are responsible for the emergence of declarative memory.[19] In addition, phenomena such as phantom limb, dependent on brain adaptation, are more prominent at latency than earlier. These facts indicate that although there is considerable prewiring in the brain, dendritic connections and other substrate correlates of social and psychological input of experience attain a fixity and level off at latency so that what follows is built on that firmer anatomic basis.

On a behavioral level the verbal regulation of behavior and the development of what Pavlov called the second signal system attain new importance during latency. In the Soviet Union, Luria[20] demonstrated how speech and language and their internalization as inner speech become more important in latency as thought supercedes impulse. Neurotransmitter changes at age 7 have been minimally explored, and the results are as yet uncertain in terms of establishing a clear neurodevelopmental marker, but the search has become ardent as neurochemical investigators apply developmental principles.

At a higher level of integration there is ample evidence of perceptual and postural maturation, as predicted by Schilder in 1935.[21] Gradual cephalocaudad maturation and intersensory integration can be documented on a behavioral level as development proceeds. A series of investigators,[21–28] all attest to the increasing regularity with which children can perform on a variety of visuomotor and neuroperceptual tests without error as they approach age 7. These include such things as those that are generally discussed under the heading of soft (or nonfocal) neurologic signs or of visuomotor integrations or intersensory integrations. This view is parallel to Sherrington's[29] earlier idea of the developmental progression from proximal to distal receptors during ontogenesis.

The characteristic achievements of this period include right-left discrimination in self and others and the establishment of handedness, eyedness, and footedness. In addition, prior plasticity of function is superseded by newly established firm developmental structures. Children can make new intersensory integrations (*e.g.*, haptic-auditory, auditory-visual) more reliably, and they also can mediate motility more smoothly; cephalic dominance gives way to appreciation of two stimuli even if presented in a cephalocaudad gradient. Sequencing motor behaviors and time sense become better established structures.

The psychoanalytic literature echoes the movement from limited to broader attention and integration in Freud's and then Mahler's notion of the cathectic shift from splanchnic to peripheral percepts. All of these ideas are consistent with the observation of growing socialization of latency children and their developing self-awareness by reorienting themselves both in space and in relation to their prior egocentric position vis-à-vis the newly discovered outer world.

The neurodevelopmental achievements lead readily to Piaget's concept that temporal-spatial orientation changes in accord with newly acquired mental cognitive operations. When applied to the data of experience, these new capacities enable the child to decenter and use higher-order operations to solve problems. As early as 1946, Ames[30] indicated that knowledge of day, month, and other temporal sequencing is an achievement of latency. Piaget was the first to direct attention to the concept of operational thought and the concrete operations that are necessary to establish temporal order, duration, and coordination of points. These concepts were further defined by Laurendeau and Pinard,[31] who studied stereognostic recognition, the construction of a projected straight line, topographic localization, left-right distinctions, and appreciation of perspectives. They offered ample evidence that at the upper limit of 7.2 years, children used the configuration of the object and its environs to characterize topographic organizations and argued that this feat is inversely related to egocentrism, which drops off during the same period. Thus, on a cognitive level the child in latency can manipulate his or her vantage and thoughts to consider the position of others better and to objectify the percepts and concepts that make up experience.

Other cognitive alterations have been studied as well. For example, Kendler and Kendler[32] suggest that the way in which children solve a particular cognitive experiment indicates that they use inte-

grative responses reflecting reasoning, insight, and inferential behavior rather than rote or concrete approaches. Indeed, increasing evidence that mediational thought is being employed in these tasks occurs only after the child's sixth or seventh birthday. White's review[33] of the cognitive studies available in the mid 1960s provides a most comprehensive summary that there is a discontinuity in development sufficient to recommend that a new period of hierarchial arrangement of learning processes be designated. These processes provide a remarkable transition to the use of cognitive strategies geared toward a change in language representation as a stimulus act to cues. The ability to maintain orientation toward invariant dimensions in a surround of variance is established at this age, and this is a stage when the child can string together internal representations of stimulus–response consequences and project them into the future for planning. Finally, children have a greater sensitivity to distance receptors than before latency. More recent work by Kagan and Klein[34] is in agreement with both White's position and Freud's earlier notion as well as with Werner's seminal work. They have proposed that there is a significant hierarchical reorganization at about age 6 or 7 such that a new mode of thinking evolves that has supersedent consequences for the next period of development. Moreover, epigenetic ideas about development should be replaced or complemented by the notion that this is a period of *new operations* based on new structures rather than a simple sequence of accumulated faults and successes that are passed from one stage to another. In strong correspondence with this notion, recent investigations indicate that children are much more likely to use and store declarative information in categories replacing the former procedural memories.[29,35]

The new structures of mind also permit consideration of the emergence of behavior that is guided by judgments about right and wrong. The work of Kohlberg[36] and of Zigler[37] indicate the importance of moral judgments during this period, too. They also show how socialization is not independent either of culture or maturation. Cognitive maturation permits a grasp of social categories that are then harnessed in the service of moral standards that are internalized as thought. This is also consistent with the new achievement of declarative memory.

It seems then that whether we call the period latency, the juvenile period, or middle childhood, the years between 7 and 12 are indeed a stage of development worthy of segregation and notice. We have argued "that these confluences in development are not fortuitious, but are part of the design feature of the human organism, and this design feature permits higher level organization and therefore, latency."[7] As the children in this period of life turn both inward for self-reflection and outward to determine their position in society, they also are learning mathematics and reading and they are developing higher-level strategies to solve problems and to deal with their peers on a personal level. They espouse public morality and decry the injustices of unfairness while testing their argumentative skills on their peers and most often their parents. They also are forming fickle relationships that seem altruistic, but they feel injured when left out. These encounters and their resolution result in creating the precursors to clubs with secret codes and a community that has an affinity for smutty, anal jokes in private away from adults.

The latter picture seems to indicate that latency is more than a linear link between early childhood and adolescence. It seems rather to be a full-blown stage with all the characteristics that would warrant such a distinction. Contrary to Freud's view, the basis of the stage may not be based on sexuality in a narrow sense, but consonant with Freud's view it does seem to be maturational. The new neural and cognitive structures, while nourished by experience, seem to develop and flourish to make middle childhood look very much as Gesell and others describe.

From an investigative vantage point the form of psychopathology or behavioral variation that is found from culture to culture could give some clue to what are the necessary ingredients for full-blown or full-formed latency to take place. The invariance across cultures could be studied while the less constant findings might be considered to be cultural.

It is on the latter grounds that Sarnoff[38] has modified our traditional concept to describe a "state of latency" to indicate the possibility of maturational or developmental lag in the achievement of this landmark. The concept grows out of clinical practice and is used as part of clinical theory to suggest that under some conditions of culture, family life, or dysmaturation some children may not show the characteristics of latency. Freud's footnote provides a similar caution and alerts clinicians that developmental arrest as well as deviance can mark the developmental course. In addition to direct clinical consideration, it should also be noted that responses to stresses such as divorce and bereavement are different from adult responses during this period.

Whereas children before age 7 who suffer parental divorce may respond openly with concerns

about whether food or a roof will be supplied, latency-aged children seem less affected and more stoic.[39] If they respond, it is based on moral judgments of right and wrong or allegiances to one or the other parent based on their own concepts of the fairness of the separation. Their extreme responses tend to emerge in conduct disorders such as running away and oppositionalism with denial of anxiety, depression, or sadness.

In a somewhat similar vein, the best evidence indicates that latency-aged children respond to bereavement differently from adults.[40,41] If they cry and mourn, it is short-lived and not observationally apparent to society as it is in adults. Indeed, this state of affairs has led some such as Wolfenstein[42] to propose that adolescence is a prerequisite to mourning and that the gradual relinquishing of the object is not possible during latency. What we see instead she says is repression and suppression of the neutral representation of the object, which is only to be revived in conflict and ambivalence later in life. However, while the data may be accurate, the interpretation is skewed by adultomorphic considerations and expectations. The visible is but one part of a process, and giving up a parent or sibling may be carried out differently during latency *but* done nonetheless as well.[41]

Pushing ahead in the developmental course we might well ask, when does latency become adolescence? Some authors have suggested preadolescence and early adolescence as concepts that encroach on latency.

The justification for such events should be evident in more than the biological fact of early signs of prepubescence but in new psychosocial landmarks that constitute the beginnings of that period. Until we have adequate inclusion and exclusion criteria for any normal developmental stage we had best continue our current practice of bringing all the data available to bear and discovering if stages make sense.

In summary, latency or middle childhood has all the criteria for a legitimate stage. It is marked by biological, psychological, and social behavioral features that segregate it from early childhood and adolescence. Moreover, deviance and dysmaturation take on different forms during this period, indicating further heuristic reasons to segregate it as a stage.

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